

ABSTRACT

DYNAMIC BRAKING OF TAPE DRIVE MOTOR

[30] An apparatus and method for the controlled dynamic braking of a DC motor in a tape transport device are provided. A PWM state device includes a plurality of state transition paths, each path having an initial state, representative of a tape profile, including a predetermined range of tape velocities, relative amounts of tape on each reel and an initial tape tension, and at least one subsequent state. When a low power event is detected, one of the state transition paths is selected, based upon a current tape profile, and an associated PWM signal is transmitted to the motor. An energy storage device provides power to the PWM state device during the low power event. The PWM signals follow the selected transition path to modulate the current generated by the motion of the motor and thereby create a decelerating force while substantially maintaining the initial tape tension.